The ultimate crystals of each fern-like flake were prisms and hexagonal plates. The parts formed by prisms and very small hexagonal plates corresponded to the rachis and basal portions of pinnæ, while the expanded portions of pinnæ and pinnules were represented by hexagonal plates alone. The terminal plates were the largest. They diminished in size as they approached the axils, where they were replaced by delicate elongate prisms.

These fern flakes are simply modifications of star-flakes. Each fern-flake is one ray of a star, the point of attachment to the twig or wire corresponding to the centre of the star. Their attachment to a fixed support was a condition of unusual development, some being more than one-half inch in length. The completed star would have been gigantic compared with a star-flake formed in a snow cloud.

Some of these fern-flakes were still further modified so as to represent a half ray, resembling one-half of a fern froud divided longitudinally. Perhaps in such a one the axis of the fern-flake represented the line of demarcation between still air and moving air.

This was a kind of snow-cloud hanging on the trees, formed under the concurrence of particular conditions of temperature, moisture, and atmospheric movement. The conditions that favor the fringe-like, or one-sided, arrangement of frost must be very unusual.

W. P. SHANNON.

Greensburg, Ind.

On the Use of the Compound Eyes of Insects.

MY personal knowledge of Dr. Dallinger enables me to accept without hesitation his statement in *Science* of Jan. 6 (p. 11) that the wood-cut on page 908 of "The Microscope and its Revelations" corresponds in every particular with the photograph from which it was taken. I should, however, like to put myself right with your readers by explaining that the photograph to which I referred as "the original" was a positive print exhibited at the meeting of the Royal Microscopical Society on Nov. 19, 1890, by Professor Bell, who said that it had been sent by Professor Exner to Dr. Sharpe, by whom it was lent for exhibition on that occasion. I examined this photograph with much interest at the close of the meeting and took the opportunity of making a sketch of it in my note-book at the time. This sketch undoubtedly shows the letter R to be the right way about, with the church facing towards the left; and although after a lapse of two years it might not have been possible to trust entirely to memory in the matter, it is impossible to suppose that I made otherwise than a true copy of the picture which I held in my hand. I therefore infer that the photograph to which Dr. Dallinger refers must have been printed the reverse way to the one which I saw as above stated.

R. T. LEWIS.

Ealing, London, S. W., England.

AMONG THE PUBLISHERS.

THE publishers of Mrs. Helen Mather's "One Summer in Hawaii," the Cassell Publishing Company, announce a new edition of that book. The present state of affairs in Hawaii have renewed interest in the subject. Mrs Mather describes the people, their manners and customs, the natural resources of the island, and gives a personal description of Queen Lilliuokaulani, by whom she was entertained. The book is filled with illustrations showing the scenery and public buildings, and gives portraits of the Queen and her predecessors in office.

— G. P. Putnam's Sons announce for early publication "The Empire of the Tsars and the Russians," by Anatole Leroy-Beaulieu, translated from the third French edition by Mme. Ragozin; "Outlines of Roman History," by Professor Henry F. Pelham, of Oxford University, a work particularly designed for reading classes and higher-grade students; "Studies of Travel in Greece

CALENDAR OF SOCIETIES.

Anthropological Society, Washington.

Feb. 21.—Mrs. Matilda Coxe Stevenson, The Foundation of the Zuni Cult; Miss Kate Foote, Dual Civic Functions: A Study in the Evolution of Institutions; Thomas Wilson, Early Man in the Mississippi Valley.

Biological Society, Washington.

Feb. 25.—Sheldon Jackson, The Introduction of Reindeer in Alaska; M. B. Waite, Variation in the Fruit of the Pear due to Difference of Pollen; E. M. Hasbrouck, On the Development of the Appendages of the Cedar Waxwing; F. A. Lucas, The Food of Humming-Birds.

Philosophical Society, Washington.

Mar. 1.—Waldemar Lindgren, Two Neocene Rivers of California; Marshall McDonald, A Study of the Gulf-Stream in Relation to the Tile Fish.

Appalachian Mountain Club, Boston.

Feb. 27.—C. Willard Hayes, Through Alaska with Lieutenant Schwatka; an account of exploration in the Yukon Basin in 1891, and the first crossing of the St. Elias-Wrangell Range.

Mar. 8.—Edouard A. Martel of Paris, will be read by Frank W. Freeborn, The Land of the Causses. The Caves of Bramabiau, Dargilan, Padirac, etc.; Philip Stanley Abbot, His Ascent of the Weisshorn.

Society of Natural History, Boston.

Mar. 1.—E. S. Morse, A Curious Aino Toy; C. Willard Hayes and M. R. Campbell, The Structural Features (Geomorphology) of the Southern Appalachians.

Agassiz Scientific Society, Corvallis, Ore.

Feb. 8—Charles Pernot, Smokeless Fuel.